

Spreading Microlepidoptera



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Overview

- Field Prep
- Spreading
- Quick! Notes on dissecting
- Acknowledgements



Spreading

- A field-pinned micro with the wings “popped” open makes them very easy to relax and spread later.



Relax first!

- Tupperware



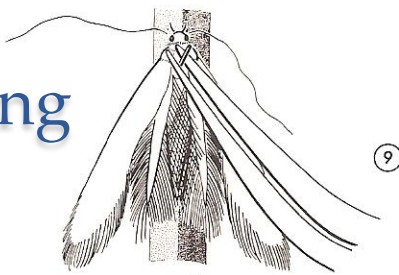
Relaxing

- Basics
 - Just plain water, room temp, no PDB/ Chlorocresol/Alcohol etc.
 - Standard Gelechiidae will be relaxed in 24 hours.
 - Sterilize your relaxer between use with boiling water or EtOH
 - A towel on a larger relaxer will keep condensation from forming (if problematic)

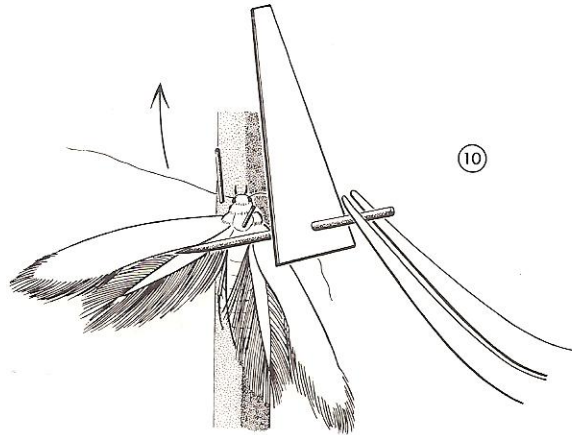
Spreading

- Conventional spreading
 - More natural for most lepidopterists
 - Difficult to manipulate forewing foreword
 - Easier to poke holes
 - Creating boards is time consuming and not as easy to manipulate (small blocks/custom and expensive tiny boards)
 - Not something I do for micros!

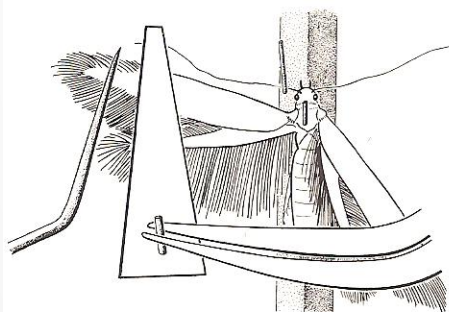
Spreading



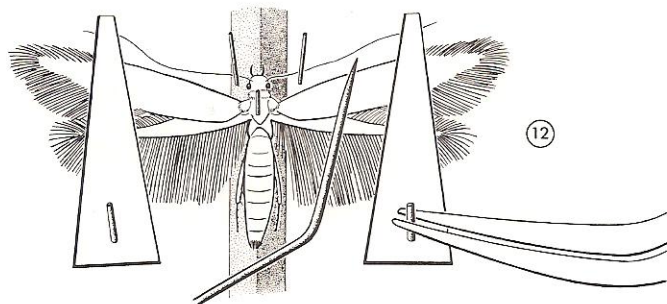
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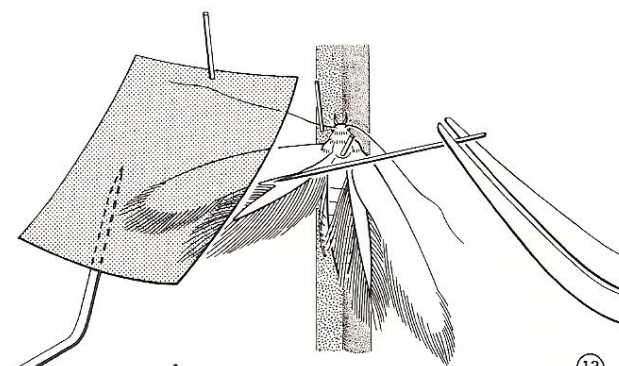
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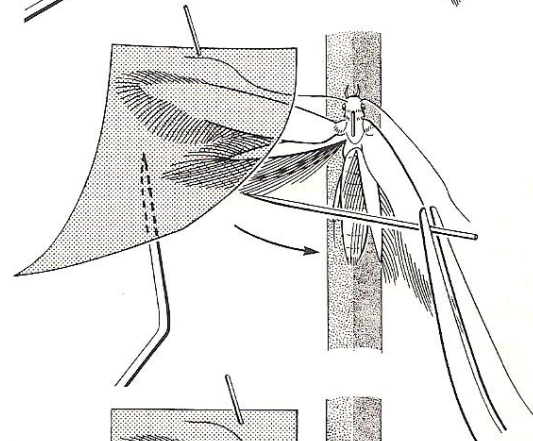
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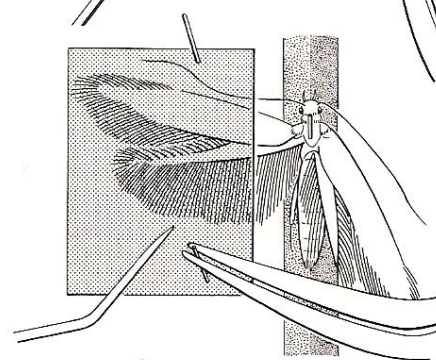
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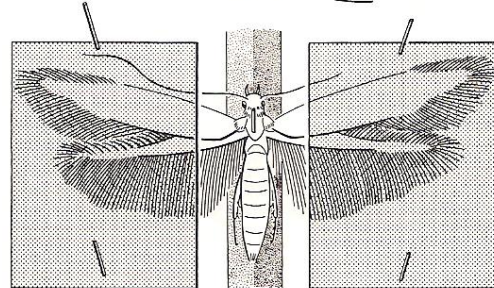
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Spreading

- Upside-down!
 - Much easier than cutting grooves, faster than spreading a Noctuid size moth.
 - Soft foam with low static, “minicell” – closed cell and high density. Smooth finish – you can place paper over the foam to make the surface even smoother.
 - Scale loss is comparable to right-side-up spreading and you don't have to poke holes in the forewings.

Upside-Down

- Step 1 – Relaxed moth



Upside-Down

- Step 2 – Make sure wings easily move



Upside-Down

- Step 3 – Flip upside-down!



Upside-Down

- Step 4 – pin wings down with tracing paper



Upside-Down

- Step 5 – Lift up paper and push forewing in place



Upside-Down

- Step 5 – Repeat on other side!

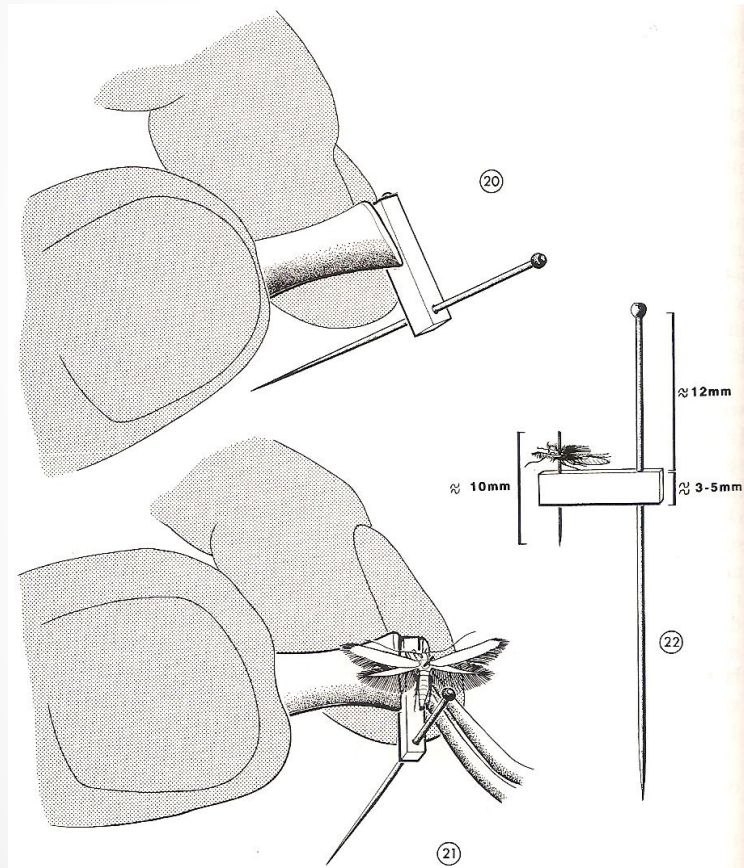


Upside-Down

- Step 6 – keep practicing



Double Mounting



Important Tips

- Not all micros will want to be relaxed and spread
 - Nepticulidae/tiny ones need to be as fresh as possible (but it's not always *impossible* to relax)
- If the wings don't puff open then they aren't ready
- Keep the difficult ones as field-pinned specimens.
 - A field pinned specimen is better than no micro at all!
- Let dry for at least a week

Dissecting!

- Standard KOH bath, can be gently warmed and a micro will be ready to dissect in the matter of 1-3 hours.
- Morphologies of micro genitalia are fascinating



Dryadaula n. sp. (Tineidae) – photo by T. Harrison

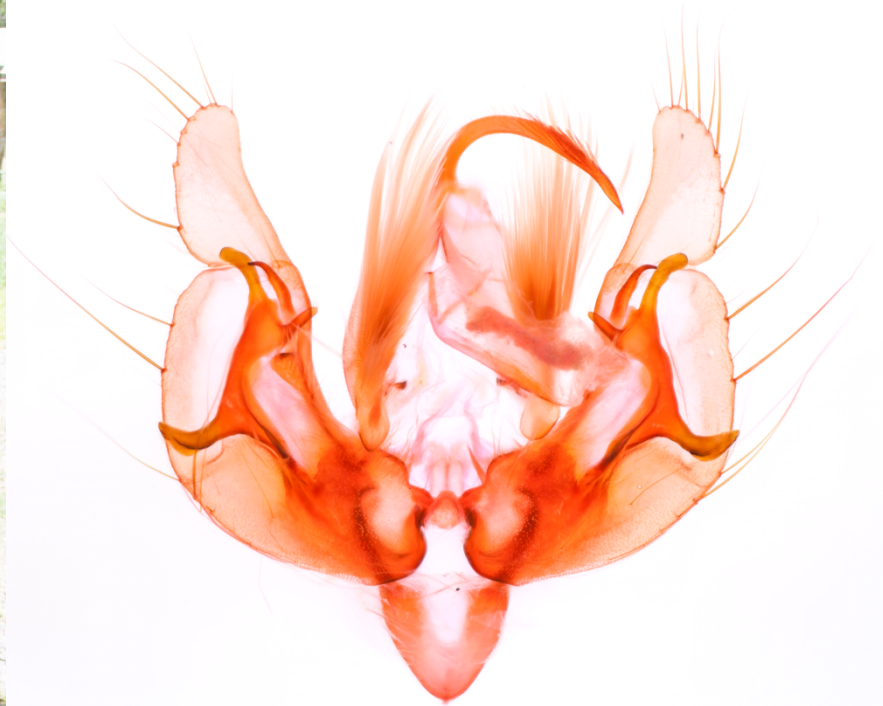
Dissecting!

- For speed and efficiency I keep all of my genitalia preps in 75% EtOH (or more recently Lactic Acid) in 1 dram vials.
 - Slides have been the standard and *are* faster to scan through looking for structures. But they often distort the genitalia and prevent future manipulation/obstruct images
 - Pin-vials are not always secure and can leak, very difficult to remove from the pin (can cause specimen damage) – but they are perfectly associated with the specimen
- Vials allow for long-term and safe storage, as well as future imaging and manipulation.

Dissecting!



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References

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- www.theskepticalmoth.com
- <http://mothphotographersgroup.msstate.edu>
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